

pumps 25 perform contraction or expansion work. The timepoint of the injection of cold water into pressure vessel 1 is shown by arrow D and that of the injection of warm water into pressure vessel 2 by arrow E.

The controllable valve 22 in the backflow line 19 is connected in such a way that it prevents water from arriving at pressure vessels 1, 2, 3, 4, as long as a pressure compensation prevails respectively between two pressure vessels 1, 2, 3, 4.

### Claims

1. System to convert thermal into motive energy with at least one pressure vessel (1, 2, 3, 4), which has at least one upper injection orifice (5, 6) for a warm and/or cold fluid, and with a liquid piston pump (25) within the pressure vessel (1, 2, 3, 4), which is coupled with a working cycle (8), characterized in that the pressure vessel (1, 2, 3, 4) has a horizontal wall (27) provided with a borehole (26), wherein above the wall (27), there is a gas or gas mixture and below the wall (27), the liquid piston pump (25).

2. System according to Claim 1, characterized in that the borehole (26) expands conically in the direction of the section of the pressure vessel (1, 2, 3, 4) filled with gas.

3. System according to Claim 1 or 2, characterized in that a float valve (28) with a borehole (26) for the filling level limitation of the liquid piston pump (25) is inserted into the wall (27).

4. System according to Claim 3, characterized in that the float valve (28) comprises a basket (32) screwed into the wall (27) to receive a plastic sphere (34), wherein the basket (32) has the cylindrical part (29) of the borehole (26).

5. System according to Claim 4, characterized in that the basket (32) carries a screen (35) affixed via distance sleeves (36), which projects into the area of the pressure vessel (1, 2, 3, 4), filled with gas or a gas mixture.

6. System according to Claim 1, characterized in that the pressure vessel (1, 2, 3, 4) has on its lower end a connection piece (7) to connect to a flow line (17) of the working cycle (8).

7. System according to Claim 6, characterized in that the connection piece (7) is coupled with a backflow line (19) of the working cycle (8).

8. System according to Claim 7, characterized in that the backflow line (19) of the working cycle (8), in particular, with interposition of a controllable valve, is connected to a conduit leading to the injection orifice (6) for the cold fluid or to a supply vessel (15) for the fluid.

9. System according to one of Claims 6 to 8, characterized in that the flow line (17) leads to a turbine (20), from which the backflow conduit (19) exits.

10. System according to one of Claims 6 to 9, characterized in that the flow line (17) is connected to the supply vessel (15) via a conduit.

11. System according to one of Claims 1 to 10, characterized in that a conduit (14) exits from the supply vessel, and the conduit branches off with the interposition of valves (11, 37) to a heating (10) and a cooling device (13) for the fluid.

12. System according to Claim 11, characterized in that the heating device (10) and the cooling device are respectively coupled with one of the injection orifices (5, 6) with the interposition of a controlled valve.

13. System according to one of Claims 1 to 12, characterized in that the fluid is water or an organic substance including pentane, toluene, or silicone oil.

14. System according to one of Claims 1 to 13, characterized in that a short-circuit pipeline with at least one controllable valve for pressure compensation between the pressure vessels (1, 2, 3, 4) is respectively provided between two pressure vessels (1, 2, 3, 4) after the performance of the work of the gas.